REMARKS

In the Office Action, claims 1-19, 22-50, 52 and 71-72 were rejected under 35 U.S.C. § 103 based on the cited art. In addition, claim 1 and the Iddan et al. and Okada et al. references were discussed in an interview with Examiner Shawn An on January 30, 2003. Applicant's Representatives thank the Examiner for the courtesy extended by Examiner An. Claims 1, 20, 21, 27, 51 and 53 have now been amended.

Claims 1-19, 22-25 and 71-72 were rejected as being unpatentable over Okada et al. Regarding claim 1, the Examiner states that according to Okada et al., the sensor assembly detects a stereoscopic image. However, the system according to Okada et al. is structured differently than that of the claimed invention and further produces stereoscopic images in a manner different than the system recited in claim 1 of the application.

In Figure 9, Okada et al. discloses a system that includes an endoscope and a detachable unit, each including a monocular camera. Each of these cameras acquires a monocular image of an object. When the detachable unit is not separated from the endoscope, these two images can be regarded as two parts of a stereoscopic image and be presented together using a stereoscopic display. However, neither of these cameras, and more particularly the camera of the detachable unit, can produce on its own, a complete pair of stereoscopic images.

Okada et al. does not disclose, nor does it suggest a swallowable capsule, which includes an assembly, detecting stereoscopic images independently (i.e., one capable of acquiring a complete pair of stereoscopic images).

Furthermore, the system according to Okada et al. can detect stereoscopic images only when the detachable imaging unit is not separated (col. 8, lines 41-49), the same configuration as a conventional stereoscopic endoscope. Okada et al. does not disclose, nor does the reference suggest, a system for producing stereoscopic images, which employs a separable capsule for acquiring stereoscopic images, when separated from the delivery device, as recited in claim 1.

Accordingly, Applicant asserts that that claim 1 and the claims depending from claim 1 should not be regarded as being anticipated by Okada.

Claim 26 was rejected as being unpatentable over Okada et al. in view of Adelson. The Examiner wrote that it would have been obvious to a person skilled in the relevant art employing

a system for producing stereoscopic images of an object, as taught by Okada et al., to incorporate the lenticular lens array and the light sensor array as taught by Adelson in order to direct light from different directions to different light sensors within the selected group of the light sensors for achieving a stereoscopic image.

Accordingly, Applicant asserts that claim 26 is not anticipated by Okada et al. in view of Adelson and as claim 1 is allowable, claim 26 depending from 1 is also allowable.

Claims 27-39 were rejected as being unpatentable over Okada et al. in view of Watannabe. Applicant asserts that these claims all depend either directly or indirectly on claim 26. Applicant asserts that, as discussed above, claim 26 is allowable. Applicant therefore asserts that claims 27-39 are also allowable.

Claims 40-50 and 52 were rejected as being unpatentable over Okada et al. in view of Street. The Examiner wrote that it would have been obvious to a person of ordinary skill in the relevant art employing a system for producing stereoscopic images of an object as taught by Okada et al. to incorporate Street's two apertures including a light valve and a light sensor for generating a stereoscopic video signal.

It would not be obvious to combine the systems of Okada et al. and Street. Moreover, even if the references were combined, the combination would not anticipate the claimed invention. Accordingly, Applicant asserts that claims 40-50 and 52 would not be regarded as being anticipated by Okada et al. in view of Street. As claim 1 is believed to be allowable, claims 40-50 and 52 are also allowable.

Claims 20-21, 51 and 53-70 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant thanks the Examiner for the indication of allowable subject matter. Claims 20, 21, 51 and 53 have been rewritten in independent form including the limitations of the base claim and any intervening claims. Applicant asserts that these claims are allowable.

In view of the foregoing, entry and approval of these amendments and a speedy and favorable action are respectfully solicited. If the Examiner feels that a telephone interview may be helpful in this matter, please contact Applicant's representative at 612.336.4728.

Respectfully submitted,

MERCHANT & GOULD P.C.
P.O. Box 2903
Minneapolis, MN 55402-0903
612/332-5300

Date: 2/4/03

Gregory A. Sebald
Reg. No. 33,280
GAS/krn

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims

Claims 1, 20, 21, 27, 51 and 53 have been amended as follows:

1. (Amended) System for producing a stereoscopic image of an object, and displaying the stereoscopic image, the system comprising:

a swallowable capsule; and

a control unit;

said capsule comprising:

a sensor assembly;

a processor connected to said sensor assembly;

a capsule transceiver connected to said processor;

a light source; and

a power supply for supplying power to said capsule transceiver, said processor, said light source and to said sensor assembly[,];

wherein, said sensor assembly detects said stereoscopic image, said processor captures said stereoscopic image, said capsule transceiver transmits said stereoscopic image to said control unit transceiver and said image processing system processes said stereoscopic image.

20. (Amended) [The system according to claim 18,] System for producing a stereoscopic image of an object, and displaying the stereoscopic image, the system comprising:

a capsule; and

a control unit;

said capsule comprising:

a sensor assembly;

a processor connected to said sensor assembly;

a capsule transceiver connected to said processor;

at least one dispensing compartment containing a medical substance and comprising a door mechanism, and each of said door mechanisms is connected to said processor, wherein each of said at least one dispensing compartments releases a selected amount of said medical substance according to a command provided by said processor to said door mechanism;

a light source; and

a power supply for supplying power to said capsule transceiver, said processor, said light source and to said sensor assembly;

wherein, said sensor assembly detects said stereoscopic image, said processor captures said stereoscopic image, said capsule transceiver transmits said stereoscopic image to said control unit transceiver and said image processing system processes said stereoscopic image.

21. (Amended) [The system according to claim 19,] System for producing a stereoscopic image of an object, and displaying the stereoscopic image, the system comprising:

a capsule; and

a control unit;

said capsule comprising:

a sensor assembly;

a processor connected to said sensor assembly;

at least one collecting compartment collecting a bodily substance and comprising a door mechanism, and each of said door mechanisms is connected to said processor, wherein each of said at least one collecting compartments collects a selected amount of said bodily substance according to a command which said processor provides said door mechanism;

a capsule transceiver connected to said processor;

a power supply for supplying power to said capsule transceiver, said processor, said light source and to said sensor assembly;

wherein, said sensor assembly detects said stereoscopic image, said processor captures said stereoscopic image, said capsule transceiver transmits said stereoscopic image to said control unit transceiver and said image processing system processes said stereoscopic image.

27. (Amended) The system according to claim 26, wherein said light source produces at least two alternating beams of light, wherein each of said at least two alternating beams of light[, each said alternating beams of light] is characterized as being in a different range of wavelengths.

51. (Amended) [The system according to claim 40,] System for producing a stereoscopic image of an object, and displaying the stereoscopic image, the system comprising:

a capsule; and

a control unit;

said capsule comprising:

a sensor assembly comprising:

at least two apertures, each said at least two apertures includes a light valve, each said light valves being operative to open at different predetermined timing; and

a light sensor array,

wherein said light sensor array detects a plurality of images, each of said images corresponds to an open state of a selected one of said light valves;

a processor connected to said sensor assembly;

a capsule transceiver connected to said processor;

a light source, wherein said light source surrounds said at least two apertures; and

a power supply for supplying power to said capsule transceiver, said processor, said light source and to said sensor assembly;

wherein, said sensor assembly detects said stereoscopic image, said processor captures said stereoscopic image, said capsule transceiver transmits said stereoscopic image to said control unit transceiver and said image processing system processes said stereoscopic image.

53. (Amended) [The system according to claim 1, wherein said sensor assembly comprises:] System for producing a stereoscopic image of an object, and displaying the stereoscopic image, the system comprising:

a capsule; and

a control unit;

said capsule comprising:

a sensor assembly comprising:

a lower light sensor array connected to said processor;

an upper light sensor array connected to said processor, an upper light sensor array detecting surface faces a direction opposite to the direction of a lower light sensor array detecting surface;

a lower mirror facing said lower light sensor array detecting surface;

an upper mirror facing said upper light sensor array detecting surface; and

an optical assembly located between said lower mirror, said upper mirror and said object for directing light beams from said object to said lower mirror and to said upper mirror, and

wherein each of said lower light sensor array and said upper light sensor array includes a plurality of light sensors, and

wherein said optical assembly directs at least one light beam from a first portion of said object to said lower mirror, and said optical assembly directs at least one light beam from a second portion of said object to said upper mirror, and

wherein said lower mirror reflects said at least one light beam from said first portion to said lower light sensor array detecting surface, said upper mirror reflects said at least one light beam from said second portion to said upper light sensor detecting surface, and

wherein said lower light sensor array detects an image of said first portion and said upper light sensor array detects an image of said second portion;

a processor connected to said sensor assembly;

a capsule transceiver connected to said processor;

a power supply for supplying power to said capsule transceiver, said processor, said light source and to said sensor assembly;

wherein, said sensor assembly detects said stereoscopic image, said processor captures said stereoscopic image, said capsule transceiver transmits said stereoscopic image to said control unit transceiver and said image processing system processes said stereoscopic image.